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# Indian Standard

# SPECIFICATION FOR JUTE FABRICS USED IN THE PACKING OF TEXTILE PRODUCTS

UDC 677·13-064:621·798



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INDIAN STANDARDS INSTITUTION MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG NEW DELHI 110002

# AMENDMENT NO. 1 MAY 1978

TO

IS:8569-1977 SPECIFICATION FOR JUTE FABRICS USED IN THE PACKING OF TEXTILE PRODUCTS

# Corrigendum

[Page 6, Table 1, col 2, Sl No. v (a) and (b)] - Substitute the following for the existing matter:

- 'a) Warpway, kgf, Min
  - b) Weftway, kgf. Min'

(TDC 3)

Reprography Unit, ISI, New Delhi

# Indian Standard

# SPECIFICATION FOR JUTE FABRICS USED IN THE PACKING OF TEXTILE PRODUCTS

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(Continued on page 2)

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# Indian Standard

# SPECIFICATION FOR JUTE FABRICS USED IN THE PACKING OF TEXTILE PRODUCTS

## O. FOREWORD

- 0.1 This Indian Standard was adopted by the Indian Standards Institution on 29 July 1977, after the draft finalized by the Jute and Jute Products Sectional Committee had been approved by the Textile Division Council.
- 0.2 Formulation of the standard was taken up at the instance of Cotton Textiles Export Promotion Council (CTEPC). Use of the jute fabrics covered in this standard has been recommended in the CTEPC Rules for packing cotton yarn and fabrics as well as in the following Indian Standard codes of practice:
  - IS: 32-1971 Seaworthy packaging of woollen and worsted yarn and cloth (second revision)
  - IS: 293-1967 Seaworthy packaging of cotton cloth and yarn (second revision)
  - IS: 741-1971 Inland packaging of woollen and worsted yarn and cloth (first revision)
  - IS: 1347-1972 Inland packaging of cotton cloth and yarn (first revision)
  - IS: 3086-1965 Seaworthy packaging of cotton hosiery yarn and goods
  - IS: 3325-1965 Inland packaging of cotton hosiery yarn and goods
- 0.3 The Government of India has decided to adopt International system of Units (SI Units) for use in industry and trade in India. To familiarize the industry with SI Units, the basic SI Units as well as the recommended SI Units for use in the textile industry are given in Appendix A.
- 0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the results of test, shall be rounded off in accordance with IS: 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

<sup>\*</sup>Rules for rounding off numerical values ( revised ).

#### 1. SCOPE

1.1 This standard prescribes constructional details and other particulars of the four varieties of jute fabrics, of such widths as agreed to between the buyer and the seller, used exclusively for packing of textile products.

#### 2. TERMINOLOGY

- 2.0 For the purpose of this standard, the following definitions shall apply.
- 2.1 Lot The quantity of fabrics purporting to be of one definite type, width and quality, and packed in bales or rolls containing one definite length of fabrics, delivered to one buyer against one despatch note.
- 2.2 Bale A rectangular or square pressed, rigid package, containing fabrics, covered with bale covering with outer layer stitched and bound by metal hoops in conformity with IS: 2873-1969\*.
- 2.3 Contract Mass The mass obtained from the marked length per bale or roll, nominal width and weight per square metre of fabrics.
- 2.4 Corrected Net Mass The mass obtained by adjusting the actual net mass on the basis of actual regain to the contract regain.
- 2.5 Contract Regain The contract moisture regain is the percentage regain on the basis of which the corrected net mass is calculated.
- 2.6 Cut (Full Cut)—A length of continuously woven jute fabric measuring 82 m or more.
- 2.7 Medium Cut A length of continuously woven jute fabric measuring 37 m or more but less than 82 m.
- 2.7.1 Crisped and Rolled Lapped Cut A length of continuously woven jute fabric 46 m or as agreed to between the buyer and the seller folded lengthwise at the middle from selvedge to selvedge and rolled without core.
- 2.8 Short Piece A length of continuously woven jute fabric measuring 18 m or more but less than 37 m.
- 2.9 Ends The warp threads of a fabric.
- 2.10 Picks The west or filling threads of a fabric.
- 2.11 Roll The cylindrical rigid package containing one type of jute fabric wrapped on suitable core or covered with roll covering with outer-layer stitched properly, in conformity with IS: 4744-1968†.

<sup>\*</sup>Specification for packaging of jute products in bales (first revision). †Specification for packaging of jute products in rolls.

## 3. GENERAL REQUIREMENTS

3.1 The fabric shall be woven with jute yarn in plain weave, with two single yarns through each split of reed. The fabric shall be generally of uniform construction. Its selvedges shall be firm and may contain cotton yarn.

## 4. SPECIFIC REQUIREMENTS

- 4.1 The jute fabric shall conform to the requirements laid down in Table 1.
- 4.2 Permissible Number of Medium Cuts and Short Pieces The packed bales or rolls of each variety may contain the following permissible number of medium cuts and short pieces:
  - a) 5 medium cuts, Max; or
  - b) 4 medium and 1 short cuts, Max; or
  - c) 3 medium or 2 short cuts, Max.
- 4.3 The packed bales or rolls shall conform to the provisions laid down in Table 2.
- 4.4 Contract Regain The contract moisture regain shall be 16 percent.

#### 5. PACKING AND MARKING

- 5.1 The jute fabrics shall be packed in bales or rolls as required. The packing and marking shall conform to IS: 2873-1969\* for bales or IS: 4744-1968† for rolls unless specified otherwise.
- 5.1.1 The bales or rolls may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

#### 6. SAMPLING AND INSPECTION

6.1 Unless otherwise agreed to between the buyer and the seller, the procedure for sampling shall be as given in Appendix C.

<sup>\*</sup>Specification for packaging of jute products in bales (first revision).

<sup>†</sup>Specification for packaging of jute products in rolls.

	TAI	ILE 1 PART	CULARS OF (Clause 4.1)	TABLE 1 PARTICULARS OF JUTE FABRICS (Clauss 4.1)	<b>9</b>	
Sr	CHARACTERISTIC		Require	REQUIREMENT FOR	(	METHOD OF TEST, REF TO
0		Variety 1	Variety 2	Variety 3	Variety 4	
(E)	(2)	(3)	(4)	(2)	(9)	(6)
	Mass, g/m²	229 + 18 - 4·5	305 + 24 - 6	380 + 30 - 8	435 + 35 - 9	IS: 2387-1969•
(ii	Ends per dm	38 + 2 - 1	47 ± 2	47 ± 2	47±2 }	5.2 of
iii)	Picks per dm	$\frac{35 + 2}{-1}$	47 ± 2	<b>4</b> 7 ± 2	55 ± 3	IS: 1963-19697
iv)	Width, cm	<b>~</b> 102	← 102 + 3 - 0	<b>←</b> 114.5 + 3.4 – 0.0	+ 3.4+	IS: 1954-1966‡
			Unless other	Unless otherwise specified		
•	Breaking load [Strip Method (10 × 20 cm)]:					IS: 1969-1968§
	a) Warpway, kgf	92	112	105	120	
	b) Westway, kgf	78	120	140	160	
			•	•	+ 3	+ 3 and if it is above

Nors — If the specified width of fabric is 102 cm or below, the tolerance shall be  $\frac{+3}{2}$  cm and if it is above 102 cm, the tolerance shall be + 3 percent,

•Methods for determination of weight of jute fabrics (first revision).

†Methods for determination of threads per decimetre in woven fabrics (first revision).

‡Methods for determination of length and width of fabrics (first revision).

§Methods for determination of breaking load and elongation at break of woven textile fabrics (first revision).

#### 7. CRITERIA FOR CONFORMITY

7.1 The lot shall be considered as conforming to the requirements of the standard, if the conditions specified in 7.1.1 or 7.1.2 are satisfied.

#### 7.1.1 For Fabrics Packed in Bales

- a) The total of the corrected net mass of the bales under test is not less than the contract mass of the bales.
- b) The length of fabrics in each bale under test is not less than the marked length.
- c) The number of medium cuts and short pieces in each bale under test does not exceed the specified numbers.
- d) The average moisture regain percent of the test samples does not exceed the specified percentage.
- e) The average oil content percent of the test samples does not exceed the specified percentage.
- f) The average warpway and weftway breaking values of the test samples by strip method are not less than the corresponding breaking load specified.
- g) The average value of (1) mass per square metre, (2) ends per decimetre, and (3) picks per decimetre for the test samples are in accordance with the requirements specified.
- h) 90 percent of the width measurement values of the test sample (C-2.3) shall be in accordance with the requirements specified and for the remaining 10 percent tolerance shall be  $\frac{+3}{0.5}$  percent.

#### 7.1.2 For Fabrics Packed in Rolls

- a) The total of the corrected net mass of the roll under test shall not vary from the contract mass by more than  $\frac{+8}{2}$  percent.
- b) A tolerance of  $\pm 1$  percent shall be permissible on the marked length to provide for measurement errors.
- c) For moisture regain, oil content, breaking strength, mass, ends, picks and width, 7.1.1(d), (e), (f), (g) and (h) shall respectively apply.

REQUIREMENTS OF PACKED BALES OR ROLLS	(Clause 4.3)
TABLE 2	

						E
Ş.	CHARACTERISTIC		REQUIREMENT FOR	ENT FOR		METHOD OF TEST, REF TO
į		Variety 1 (229 g)	Variety 2 (305 g)	Variety 3 (380 g)	Variety 4 (435 g)	
Ξ	(2)	(3)	(4)	(5)	(9)	(7)
Ü	i) Moisture regain, percent, Max	+	1,			Appendix B
ii)	Contract mass of a bale, kg	427	569	794	206	1
iii)	Contract mass of a roll	Calculated on	Calculated on the basis of formula given in Note I below	rmula given in	Note 1 below	ţ
iv.	iv) Corrected net mass of a bale or roll ( see Note 2 )	Not less than contract mass	contract mass			ı
<b>*</b>	Length of fabric per bale, m, Min		1 829 ( Unless otherwise specified )	ig ise specified )		IS: 1954-1969*
vi)	vi) Length of fabric per roll					
vii)	Number of joints in a roll and number of such joined rolls in a consignment (see Note 3)		As specified in the contract	the contract		I
viii)	Oil content on dry deoiled material basis (see Note 4), percent, Max		9		1	IS: 2969-1974†

Note 1 — Contract mass of a bale or roll is calculated as follows:

Contract mass of a nominal width (cm) 
$$\times$$
 marked length (m)  $\times$  mass  $(g/m^4)$  bale or roll, kg =  $\frac{\text{nominal width (cm)}}{100}$ 

Contract mass of a bale given in the table is on the basis of nominal width and marked length of 1829 m

Nore 2 — Corrected net mass of a bale or roll is calculated as follows:

Corrected net mass of a net mass 
$$\times$$
 (100 + contract regain percent bale or roll =  $\frac{100 + \text{average moisture regain percent}}{(100 + \text{average moisture regain percent})}$ 

Nors 3 — The seller shall indicate on the roll(s) the number of joints, if any.

Nors 4 — The specified oil content value of 6 percent corresponds to an oil content of about 5 percent when determined on dry deoiled material plus 16 percent regain.

•Methods for determination of length and width of fabrics (first revision), †Method for determination of oil content of jute yarn and fabrics (first revision),

# APPENDIX A

(Clause 0.3)

# SI UNITS

# TABLE 3 INTERNATIONAL SYSTEM OF UNITS

m	TT 14
	I I TO STA

QUANTITY	Unit	SYMBOL	
Length	metre	m	
Mass	kilogram	kg	
Time	second	s	
Electric current	amper <b>e</b>	Λ	
Thermodynamic temperature	kelvin	K	
Luminous intensity	candela	<b>c</b> d	
Amount of substance	mole	mol	
Supplementary Units			
QUANTITY	Unit	Symbol	
Plane angle	radian	rad	
Solid angle	stcradian	sr	
Derived Units			
QUANTITY	Unit	Symbol	Conversion
Force	newton	N	1 N = 1 kg. 1 m/s <sup>2</sup>
Energy	joul <del>e</del>	J	1  J = 1  N,m
Power	watt	w	1 W = 1 J/s
Flux	weber	Wb	1  Wb = 1  V.s
Flux density	tesla	T	$1  T = 1 \text{ Wb/m}^2$
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ c/s (s}^{-1})$
Electric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	$1 Pa = 1 N/m^3$

( Continued)

		TABLE 4 RE	TABLE 4 RECOMMENDED SI UNITS FOR TEXTILES	UNITS FO	R TEXTILES	
Sr	CHARACTERISTIC	SI UNIT	TIN	Mer	METRIC UNIT	APPLICATION
7	÷	Unit	Abbreviation	Unit	Abbreviation	
Ξ	(2)	(3)	<del>(4)</del>	(5)	<b>©</b>	(7)
_	1. Length	Millimetre	шш	!	I	Fibre
		Millimetre,	mm, cm	1	i	Samples and test specimens
		centimetre Metre	æ	i	i	( as appropriate ) Yarns, ropes and cordages, fabrics
2	2. Width	Millimetre	mm	1	I	Narrow fabrics
		Centimetre	cm	ł	1	Other fabrics
		Millimetre,	mm, cm	1	1	Samples and test specimen
		centimetre Centimetre, metre	cm, m	I	I	( as appropriate ) Carpets, druggets, durries ( as appropriate )
60	3. Thickness	Micrometre	шn	i	1	Delicate fabrics
		( micron ) Millimetre	шш	I	i	Other fabrics, carpets, felts
4	4. Linear density*	Tex	tex	1	i	Yarns
		Millitex	mtex	1	1	
		Decitex	dtex	i	1	Filament and filament yarns
		Kilotex	ktex	ı	1	Slivers, ropes and cordages
Ŋ	5. Diameter	Micrometre	шп	l	ı	Fibres
		Millimetre	mm	l	I	Varns, ropes, cordages
8	*For conversion on values in traditional courconversion tables for yarn counts shall be made.	ues in traditional co counts shall be mad	wnts to the tex and vi e.	ice versa, refer	ence to IS: 3689	*For conversion on values in traditional counts to the tex and vice versa, reference to IS: 3689-1966 Conversion factors and oversion tables for yarn counts shall be made.

		TABLE 4 REC	TABLE 4 RECOMMENDED SI UNITS FOR TEXTILES - Canta	ITS FOR T	EXTILES - Con	7
y S	CHARACTERISTIC .	1 IS	SI UNIT	MET	METRIC UNIT	APPLICATION
		Unit	Abbreviation	Unit	Abbreviation	
Ξ	(2)	(3)	(4)	(5)	(9)	(2)
	Circumference	Millimetre	u w	: 1	<u> </u>	Rones cordanes
7.	Threads in cloth:					tropus, cordabus
	a) Length	Number per	ends/cm	1	-	
		Number per decimetre	ends/dm	I	ı	
	b) Width	Number per	picks/cm	i	<b>ا</b>	woven labrics ( as appro- priate )
		Number per decimetre	picks/dm	ı	1	
œ́	Warp threads in loom	Number per centimetre	ends/cm	I	1	Reeds
6	Stitches in cloth:					
	a) Length	Number per	courses/cm	1	1	
		Number per decimetre	courses/dm	I	1	Z
	b) Width	Number per	wales/cm	ì	<b>^</b>	priate)
		Number per decimetre	wales/dm	1	i	
10.	Stitch length	Millimetre	mm	ı	1	Knitted fabrics
::	Mass per unit area	Grams per square metre	g/m <sup>8</sup>	ŀ	1	radecup tabrics Fabrics
12.		Grams per metre	g/m	i	1	Fabrics
13.	Twist	Turns per	turns/cm	ĺ		Yarns, ropes (as appro-
		Turns per metre	turns/m	1	1	priate)

										18	S : 8569 <i>-</i>	197
Fibres, yarns and fabric specimens (as appropriate)	Fibres, delicate yarns	Strong yarns (individual or skeins), ropes and	cordages, tabrics Yarns	Fibres, yarns (individual or skeins)		Yarns ( as appropriate )	Fabrics	Fabrics ( as appropriate )	Carpets	Pile carpet	Fibres, yarns, strands	Nors — Where more than one unit have been given for one characteristic, any of the units may be used appropriate.
i	8 f	kgf	ı	gf/tex	1	·	kgf/cm²	gf, kgf	, 	1	gf/tex/unit deforma- tion	y of the units
I	grams force	kilogram force	ı	gram force per tex	1	I	kilogram force per square centimetre	grams force, kilogram force	. 1	i	grams force per tex per unit defor- mation	characteristic, an
mm, cm	Nm	Z.	km	mN/tex	turns/cm × V tex	turns/m × Vex	N/cm²	N N N	mm	g/m²/mm pile height	mN/tex/unit deformation	been given for one
Millimetre, centimetre	Millinewton	Newton	Kilometre	Millinewton per tex	Turns per centi- turns/cm × 1/tex metre × square root of tex	Turns per metre  × square root  of tex	Newton per square centimetre	Millinewton Newton	Millimetre	Mass of pile yarn in grams per square metre per millimetre pile height	Millinewton per tex per unit deformation	than one unit have
14. Test or gauge length Millimetre, centimetr	15. Breaking load		Breaking length	Tenacity	Twist factor or twist multiplier		Bursting strength	20. Tear strength	Pile height	Pile density	Elastic modulus	Nore — Where more
<del>7.</del>	15.			17.			19.	. 70.	21. 1	22. 1	23.	

## APPENDIX B

[ Table 2, Item (i) ]

#### **MOISTURE REGAIN**

#### **B-1. METHOD OF TEST**

- **B-1.1 For Bales** Determine the moisture regain in each cut on opening the bales by the use of a suitable moisture meter. Take at least 4 readings for each cut.
- **B-2.2 For Rolls** Determine the moisture regain in each roll on opening the roll by the use of suitable moisture meter. Take at least 10 readings for each roll.

Note — IJIRA (Indian Jute Industries' Research Association) moisture meter may be used for the purpose. This meter works on the principle of measuring the electrical resistance which changes with moisture content in the material. The specially designed spring-loaded electrodes. The small amount of current passing through the electrodes is amplified and recorded on the meter calibrated against the actual moisture regain based on oven-dry method, of the material. A separate chart calibrating the actual moisture regain based on oven-dry method, of the material may also be used. The instrument shall be operated according to the manufacturer's instructions.

# APPENDIX C

(Clause 6.1)

#### SAMPLING

## C-1. GROSS MASS

- C-1.1 For Bales For evaluating the gross mass of bales, a minimum of 10 percent of bales, selected at random from the lot, shall constitute the test sample.
- C-1.2 For Rolls For evaluating the gross mass of rolls, 10 percent of the rolls, selected from the lot, subject to minimum of 2 rolls, shall constitute the test sample.

<sup>\*</sup>Mention of the name of the specific instrument is not intended to promote or give preference to the use of that instrument over others not mentioned.

# C-2. REQUIREMENTS OTHER THAN GROSS MASS

C-2.1 For Bales — For assessing the conformity to the requirements, other than gross mass of bales, the test sample shall be selected at random from the lot (bales made of cuts or crisped and rolled cuts) as follows:

No. of E		No. of Bales to be Drawn and Opened for Inspection
Up to	10	1
11 "	20	2
21 "	100	3
101 ,,	150	4
151 "	200	5
201 "	250	6
251 "	300	7
301 "	<b>3</b> 50	8
351 ,,	400	9
401 ,,	500	10
501 and	above	10 + 1 for every 100 bales or part thereof above 500 bales

C-2.2 For Rolls — For assessing the conformity to the requirements, other than gross mass, the test sample shall be selected from the lot as follows:

No. of Rolls in the Lot	No. of Rolls to be Drawn and Opened for Inspection
Up to 20	1
21 " 50	2
51 ,, 100	3
101 ,, 200	4
201 and above	4 + 1 for every 100 rolls or part thereof above 200 rolls

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C-2.3 From the bales and rolls selected as in C-2.1 and C-2.2, the test sample shall be drawn as under:

Sl	Tests	Test Sa	mple
No.		Bales	Rolls
i) ii) iii)	bale or roll	All the bales selected as in <b>C-2.1</b>	All the rolls selected as in <b>C-2.2</b>
iv) v) vi) vii)	Moisture regain, percent  Mass (g/m²)  Ends and picks  Width	Five cuts from each bale selected as in <b>C-2.1</b>	All the rolls selected as in <b>C-2.2</b>
viii) ix)	Breaking load Oil content, percent	One metre from each bale selected as in C-2.1 subject to a minimum of 3 m from 3 different cuts	One metre from each roll selected as in C-2.2 subject to a minimum of 3 m from 3 different rolls

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Packaging code Physical test methods
Rayon fabrics

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